



Agrometeorological

Monthly

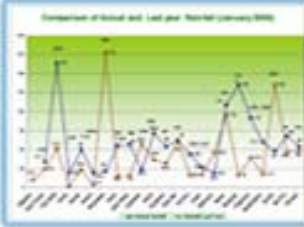


Bulletin



May - 2006

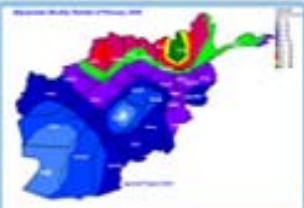
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Rainfall vs NDVI



NDVI



Comparison of NDVI



Agromet Project-Afghanistan
Helping Agriculture to End HUNGER

The Agromet Project of USGS, supported by the US Agency for International Development (USAID), is working together with the Ministry of Agriculture and Food (MAF) and the Afghan Meteorological Authority (AMA) Ministry of Transport (MoT)



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Agromet Network

Summary

In the South Western Region most Winter wheat fields are in the harvesting stages as in Lashkargah Center Greshk, Nawa, Nadali Districts of Hilmand Province, Qalat Center of the Zabul Province, Zaranj center of the Nimroz Province, Kandahar and Farah Provinces.

Generally we can say that this year the condition of the crops, especially the wheat, is not good all over the country. The irrigated wheat is in better condition than the rain fed wheat. Based on the reports from our observers 70 – 80 % of rain fed wheat and 10 - 15% of irrigated wheat is damaged all over the country.

Crop Phenological Stages

Generally all over the country the abnormal high temperature made the life cycle of wheat crop shorter than normal situation, based on the reports from the field the farmers are harvesting their wheats two weeks before the normal time which is badly affecting the wheat yield.

East Central Region :

Winter wheat (depending on the respective planting dates) is at the vegetative stage (Plants are more than 10cm/4) and in the some other areas the Winter wheat is in flowering stage as in the surrounding of Bamyan areas.

Eastern Region:

In this region crops in Agamand the Asad Abad center of Kunar province, Asmar District of the Kunar Province and Laghman Province the Winter wheat crop is in the harvesting stage.

North Eastern Region:

Most of the Winter wheat fields in the Baghlan and Badakhshan, Provinces the crops are at the grain filling stages, but in the some other areas of the Baghlan Province and Bangi District of the Takhar Province the wheat crops are at the flowering stages, In some areas as in the Imam Sahib, Chardara, Akhtifa and Qalai Zal Districts of the Kunduz province the Winter wheat crop is in the harvesting stage.

In the North Region:

In the Most parts of this region the Winter wheat fields are in the grain filling and harvesting stages as in the Jawzjan, Aibak center of Samangan province, Sozma Qala belongs to Samangan Province, Maimana center of the Faryab Province,

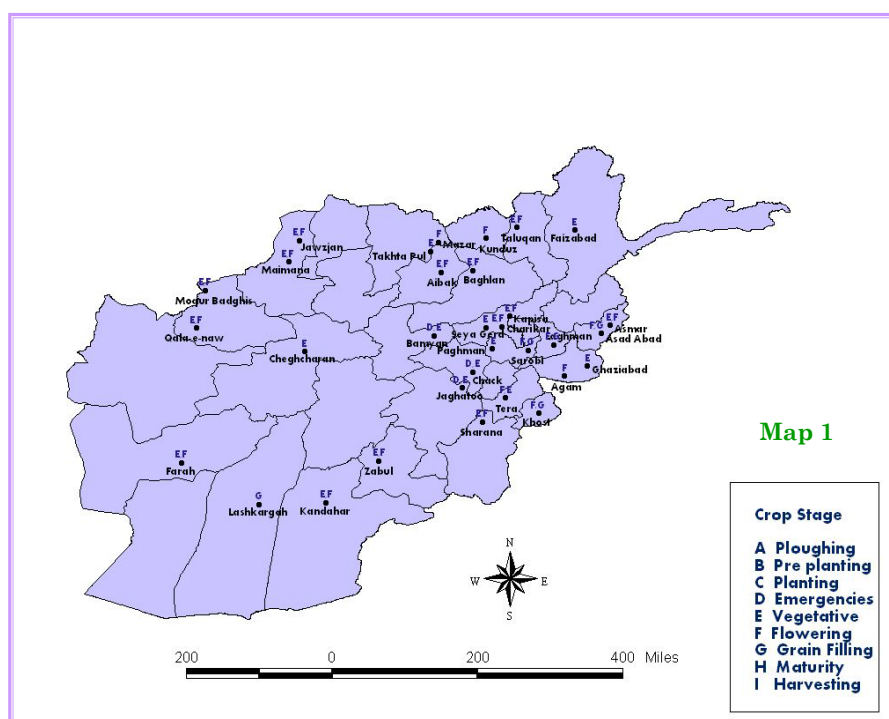
Sar-i-pul Province, Takhtapul areas and surrounding Mazar-i- Shrif center of the Balkh Province.

Western Region:

In this region most Winter wheat fields are in the flowering stage as in the Chaghcharan center of the Ghor Province, but in some other areas such as the Qalai-Naw center of Badghis, Maqur District of the Badghis Province the Winter wheat fields are in the Grain filling and harvesting stages. In the Urdokhan of Herat Province the Winter wheat fields are in the harvesting stages.

Central Region :

In this region Winter wheat is at different growth stages. In Chak and the Jaghatoo Districts of Wardak Province, some areas of Paghman District of Kabul Province crop is at the flowering stages and in the Dashtak District of the Panjsher Province, Mahmoodraque Center of the Kapisa Province the Winter wheat fields are in the flowering and Grain filling stages, but in Sarobi District of Kabul Province the wheat crops are at the harvesting stages.



Crop Phenological Stage

The South Western Region:

In this region most Winter wheat fields are in the harvesting stages as in Lashkargah Center, Greshk, Nawa, Nadali Districts of Hilmand Province, Qalat Center of the Zabul Province, Zaranj center of the Nimroz Province, Kandahar and Farah Provinces.

For the South Region

In this region the Winter wheat fields are at the different growth stages. The wheat is in the grain filling stage as in the Sharana Center of Paktika Province, Rohanee Baba and Tera of Paktia Province, Sardy and Maqur districts of Ghazni Province, but in the Khost Province the crops are at the harvesting stages.

Crop Condition

Generally we can say that this year the condition of crops, especially the wheat, is not good all over the country. The irrigated wheat is in better condition than the rain fed wheat. Based on the reports from our observers 70 – 80 % of rain fed wheat and 10 - 15% of irrigated wheat is damaged all over the country.

For the east Central Region:

In this region the crop condition is normal as in surrounding Bamyan province.

For the Eastern Region:

Winter wheat fields recorded better than normal condition as in Laghman Province, Asadabad Center and Asmar of Konar Province. Winter wheat crop in Agam areas of Nangarhar Province is in normal condition.

For the northeastern region:

In this region crops have normal condition as in Badakhshan Province, Chardara, Imamsahib Akhtipa and Qalaizal Districts of Kunduz Province. In Bangee District of Takhar Province and Baghlan province crops have better than normal condition.

For the North Region:

Crops have normal condition as in Aibak center and Sozma Qala District of Samangan,, Mazari-Sharif Center of Balkh and Takhtapul District of Balkh Province, Sar-i-pul Province, but due to the lack of Rain and Water the Jawzjan has poor crop condition and Faryab province has failure crop condition.

In the Western Region:

Winter wheat is showing normal conditions as in Chaghcharan Center of Ghor Province, and Herat Province but the Maqur District of Badghis Province and Qalia-i-new Center of Badghis Province have failure crop condition.

South Western Region :

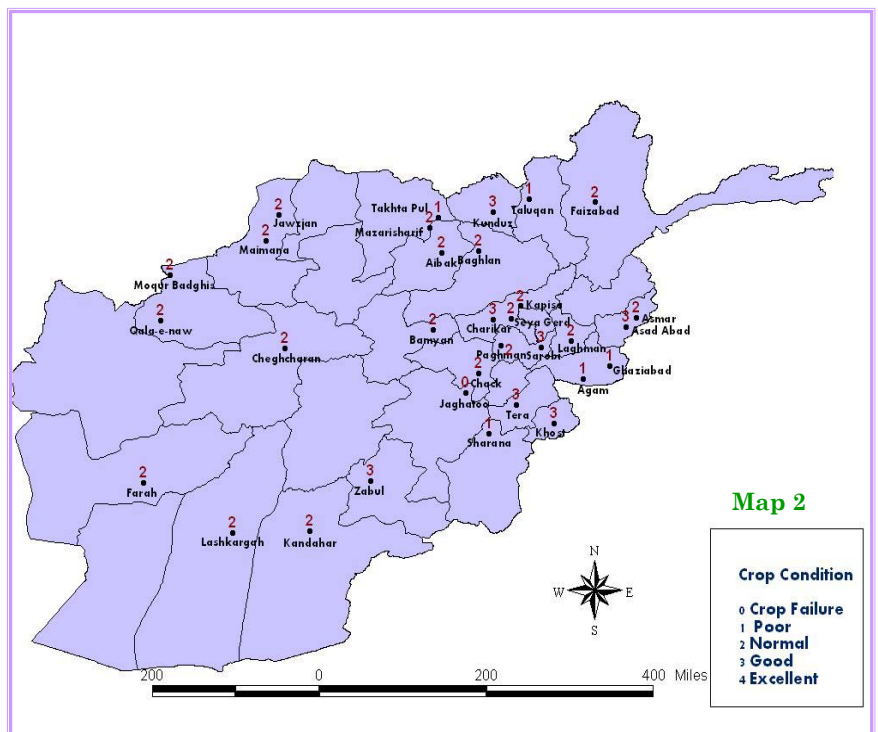
In this region crops show better than normal conditions as observed in Zabul Province, Greshk, Nawa, Nad Ali, Lashkhkargah Districts of Hilmand Province and normal for the, Kandahar and Zaranj Provinces but the Farah Province has poor crop condition.

For the Central Region:

Winter wheat fields experienced better than normal condition as for the Sarobi District of Kabul Province and Dashtak areas of Panjsher Province. Crop condition is normal for Chak District of Wardak Province, Charyakar Center of Parwan Province, Kapisa Province and Paghman District of Kabul Province. Failure crop condition is reported from Jaghatoo District of Wardak province.

For the South Region:

Crop condition is better than normal in Khost Province and Tera of Paktia Province, but poor crop conditions are reported from Sharana Center of Paktika Province, Maqur and Sardey Districts of Ghazni Province.



Adverse Factor

The lack of rain, combined with high temperatures, pest and diseases, heavy winds and floods have contributed in making the wheat condition not good throughout the country. Lack of rainfall during the month of May 2006 made the rain fed wheat condition worse and based on the reports from the field the farmers are letting their animals to use these rain fed fields which are badly affected from the dry season to use as grazing lands.

In the Western Region:

The adverse factors are the lack of rain or less rain and dry season which is observed in the whole Western region.

Other adverse factors include flooding, and shortage of inputs, such as tractors, chemical sprayers, improved seeds and fertilizer as in the Chaghcharan Center of Ghor Province, Maqur District of Qalianow, Center of Badghis Province and Hirat Province. In most parts of Herat and Badghis Provinces poor rain has affected 80% of wheat fields especially rain fed wheat.

In the South Western Region:

The adverse factors are the lack of rain or less rain and dry season which is observed in the whole South Western region. In Lashkargah, Greshkh, Nawa, Nad Ali Districts of Hilmand Province, Zabul, Kandahar Zaranj and Farah Province less rain is observed during the month of May 2006, also shortage of inputs such as tractors, chemical sprayers, and improved seeds and fertilizers are the other problems in this region. Reported information from Zabul Province saying that weed problems are affecting the Winter wheat fields. Reports from the Nimroz Province saying about Mice and fly melon in this province.

In the South Region:

In this region lack of rain or less rain is observed across the region, weeds and floods problem observed in Khost province and also flood reported from Paktai Province.

In the Eastern Region:

This region experienced less rain and the burning of forestry areas was observed in Dangam areas of Konar Province. The shortage of inputs was observed in the Laghman Province.

In the North East Region:

In this region weeds are affecting the Winter wheat and other agricultural fields in Faizabad center of Badakhshan Province, Baghlan province, Bangee District of Takhar Province and in the Imam Sahib, Chardara, Akhtifa and Qalai Zal Districts of Kunduz Province

and also from all Districts and center of the Kundoz Province reported rust of wheat and Plants Aphids SSP .

Flood damage to crops is observed in the all Zone as (Badakhshan, Takhar, Konduz and ,Baghlan Provinces).

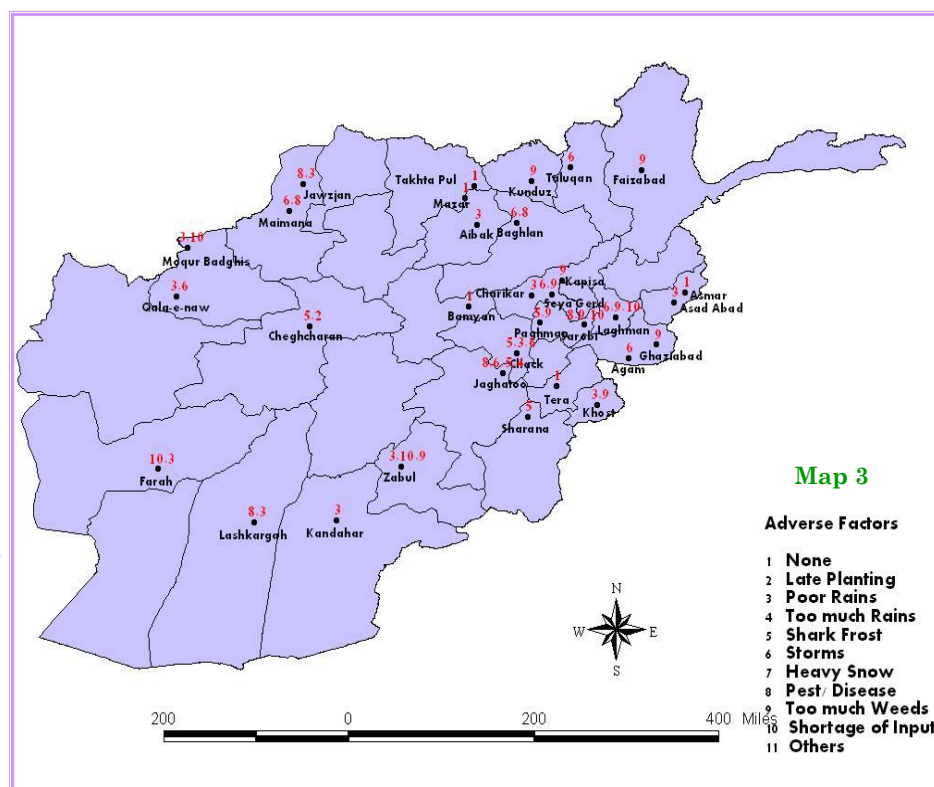
In the Northern Region:

Adverse factors are mainly less rain, resulting in 80% damage to the rain fed wheat and other plants as in Aibak Center of the Samangan Province and Jawzgan, Sar-i-pul and Farayab Provinces, sun pest, weeds problem, rust of wheat is in the center and Sosma Qala District of Sar-i-pul Province. Floods and Bark beetles of potato, melon fly had damaged some agricultural lands in the Samngan Province.

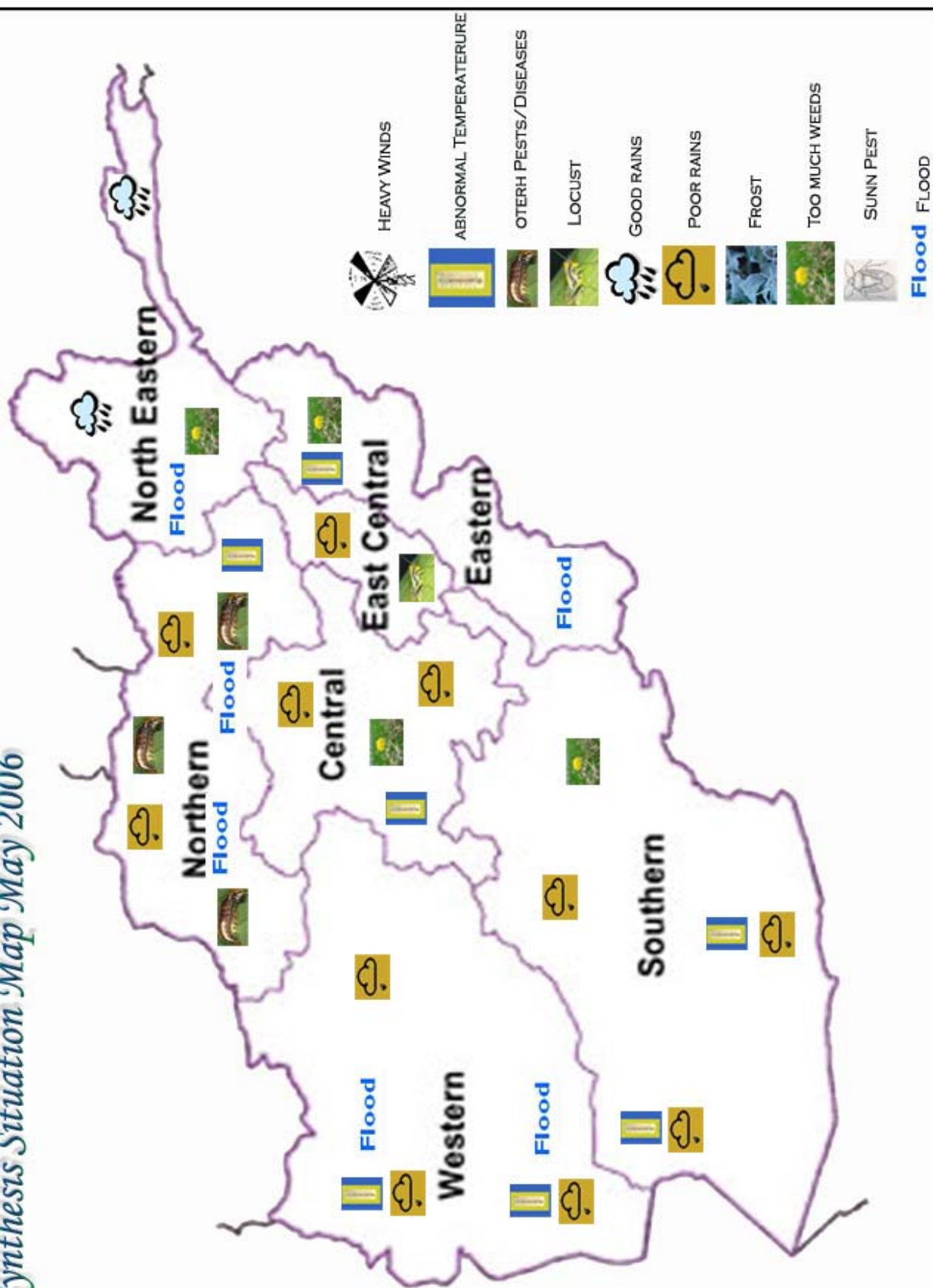
Central Region:

In this region adverse factors are frost, heavy winds and less rain as in the Chak and Jaghatoo Districts of Wardak Province, a large number of fruit trees especially Apricots and Apples are damaged due to these problems. In Jaghatoo District of the Wardak Province Mice and locusts are problems for the Farmers. In Mahmood Raqee Center of Kapisa Province, Charyakar Center of Parwan Province and in Paghman and Sarobe Districts of Kabul Province weeds are big problems for the farmers.

Also the rust of wheat observed in Mahmoodraque center of Kapisa Province. In the Sarobe District of Kabul Province, wheat rust and shortage of inputs are the adverse factors reported from these areas.



Synthesis Situation Map May 2006



Map 4

Rainfall Satiation

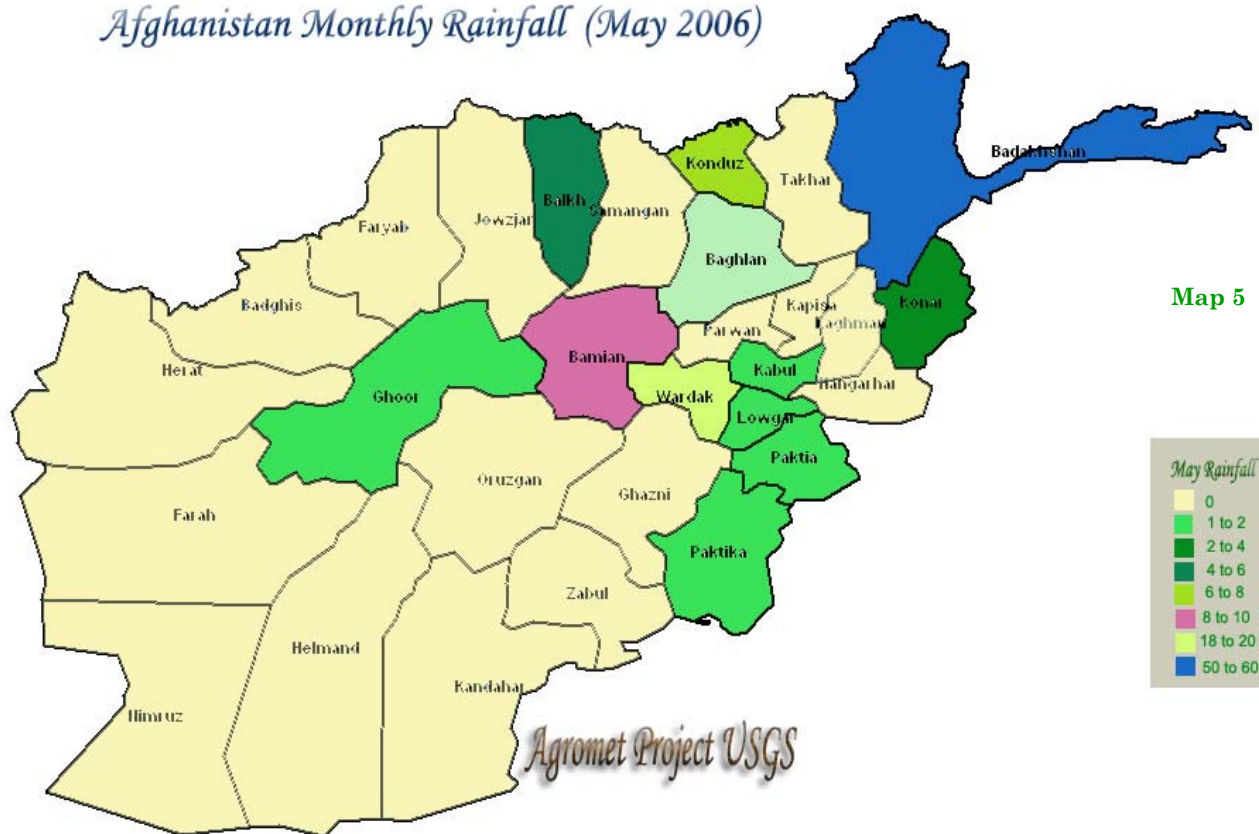
The month of May 2006 was very dry compared to the same month in 2005 and a significant decrease occurred in rainfall. Chart (1) shows 2005 – 2006 rainfall comparison. As chart (1) shows except Faizabad, Kunduz, Baghlan in the Northeastern region and Sari Pul in the Northwestern experienced less amount of rain, there was no rainfall occurred during the month of May 2006 in the remaining regions in the country. The percentage +/- rainfall in the month of May 2006 compared the same month in 2005 is as follow:

In Baghlan – 93 %, Darul Aman – 100 %, Faizabad – 100 %, Farah – 100 %, Gardiz – 100 %, Ghazni – 100 %, Ghaziabad – 100 %, Jabul Seraj – 100 %, Jalalabad -100 %, Kabul – 100 %, Kariz Mir – 100, Kunduz – 100 %, Logar – 100 %, Maimana – 100 %, Mazar – 100 %, Paghman – 100 %, Sheberghan – 100 %, Sarobi – 99 %, Sari Pul – 95 %, Taluqan – 100 %.

For the month of May 2006 rainfall was far below the same month of long term average all over the country. Chart (2) compares recorded rainfall for May 2006 with long term average. The percentage +/- is as follow:

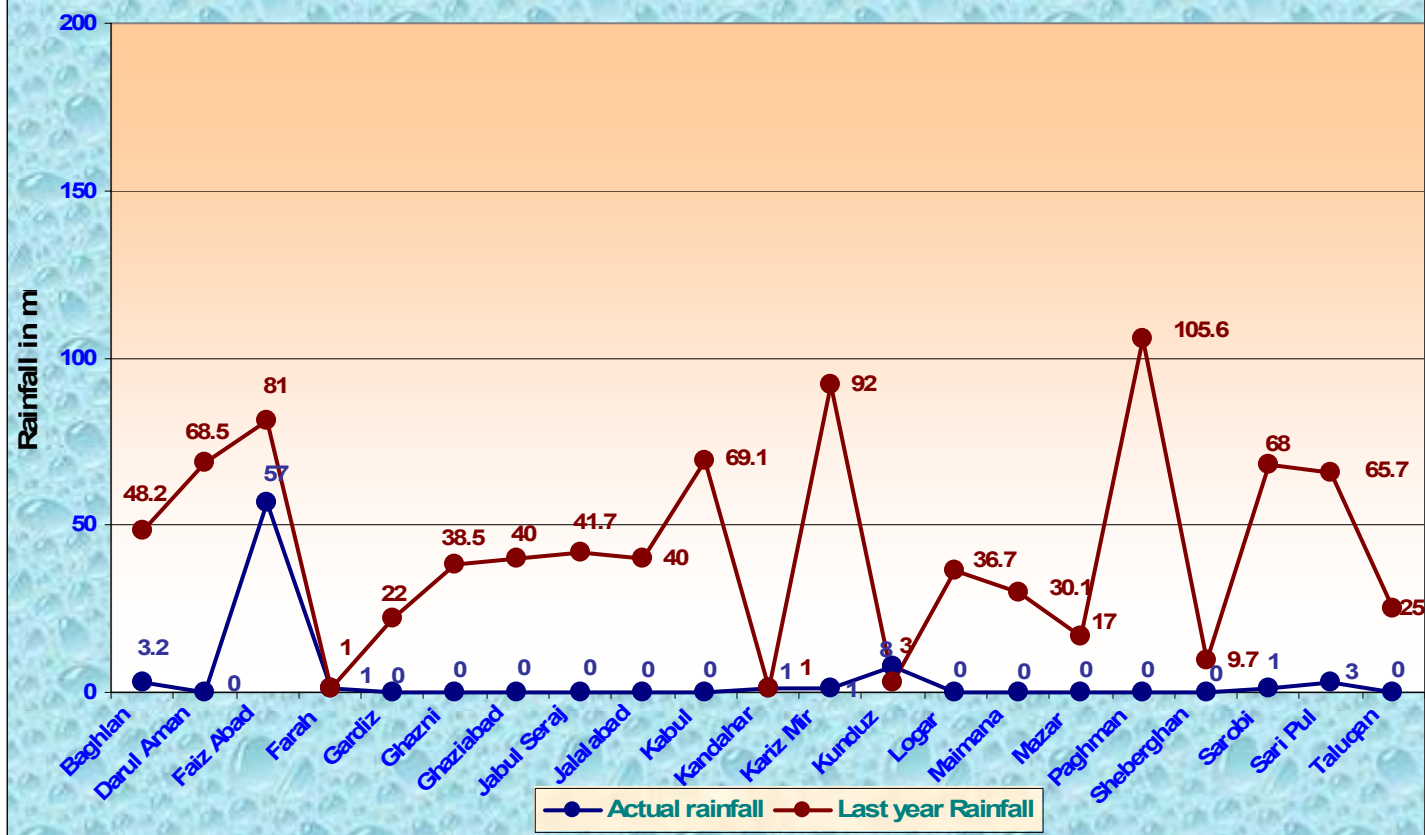
In Baghlan – 89 %, Darul Aman – 100 %, Faizabad – 39 %, Farah – 100 %, Gardiz – 100 %, Ghazni – 100 %, Ghaziabad – 100 %, Jaul Seraj -100 %, Jalalabad – 100 %, Kabul – 100 %, Kandahar – 100 %, Kariz Mir – 97 %, Kunduz – 80 %, Logar – 100 %, Maimana -100 %, Mazar – 100 %, Paghman – 100 %, Sheberghan – 100 %, Sarobi – 100 %, Sari Pul – 80 %, Taluqan – 100 %.

Afghanistan Monthly Rainfall (May 2006)

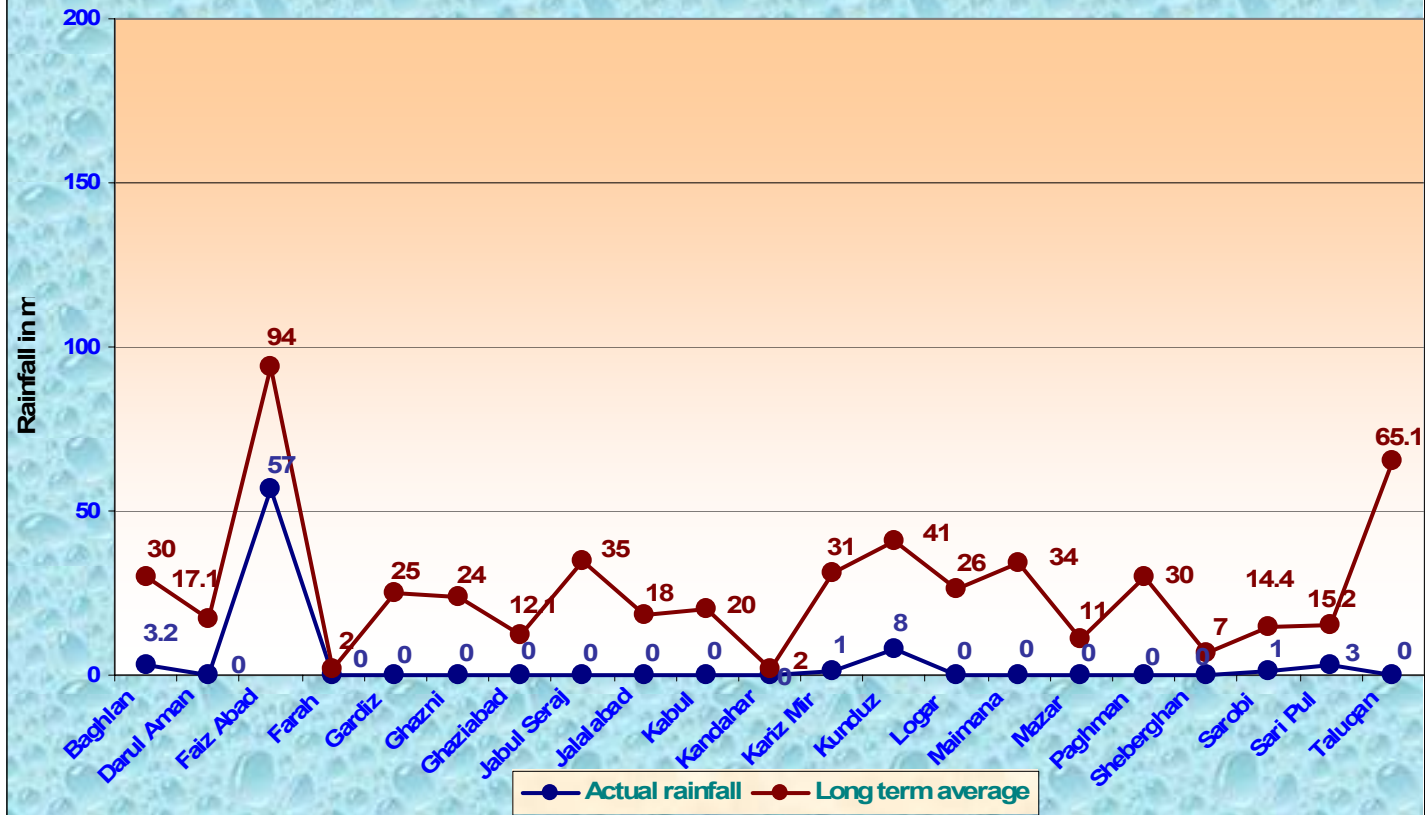


Rainfall Graphs for the month of May 2006

Comparison of Actual and Last Year Monthly Rainfall (May 2006) Chart 1



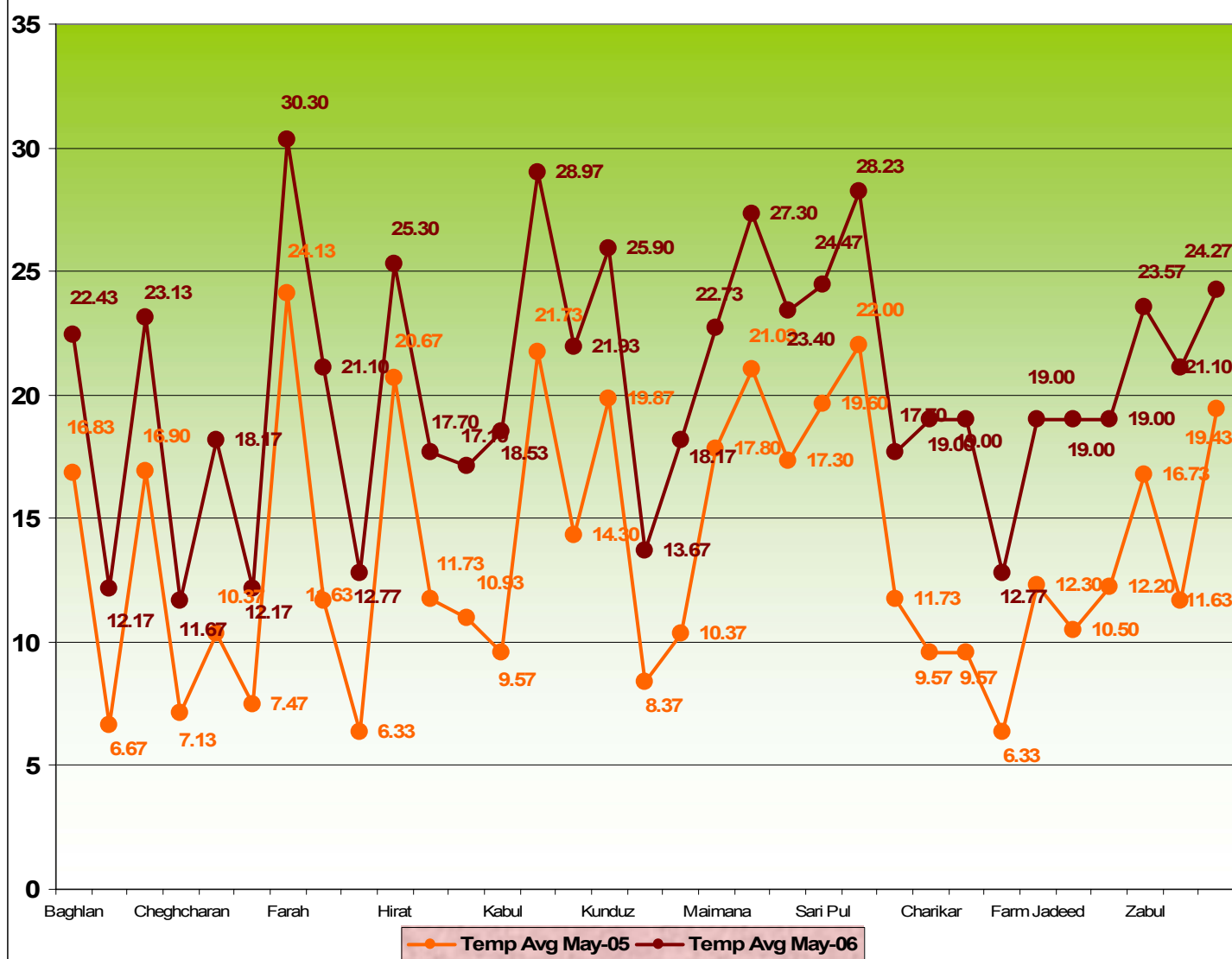
Comparison of Actual and Long Term Average Rainfall (May 2006) Chart 2



Average Temperature for the Month of May 2006

Comparison of Average Temperature of May 2006 to the same Month of 2005

Chart 3

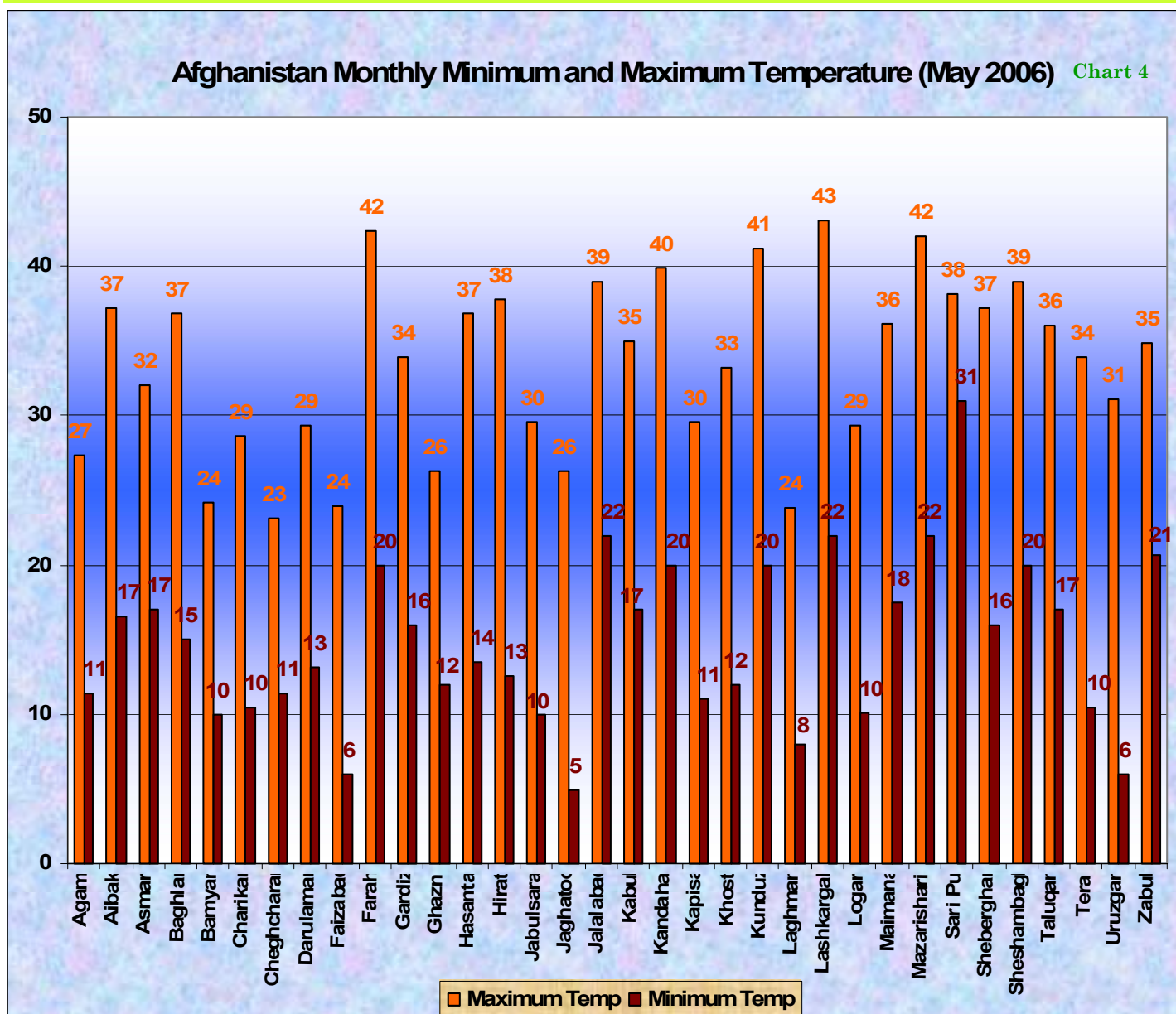


Abnormal temperature during the month of May 2006 caused that the snow melted soon than expected time

Comparison of the monthly average of temperature for the month of May 2006 to the same month in 2005 in Chart (3) shows higher temperatures during the month of May 2006 over the same month of 2005 across the country.

Abnormal temperatures during the month of May 2006 caused the snow to melt sooner than expected and reduced the snow depth and extent, which resulted in the water surface being raised on the rivers producing floods, occurred in several provinces.

Temperature for the Month of May 2006



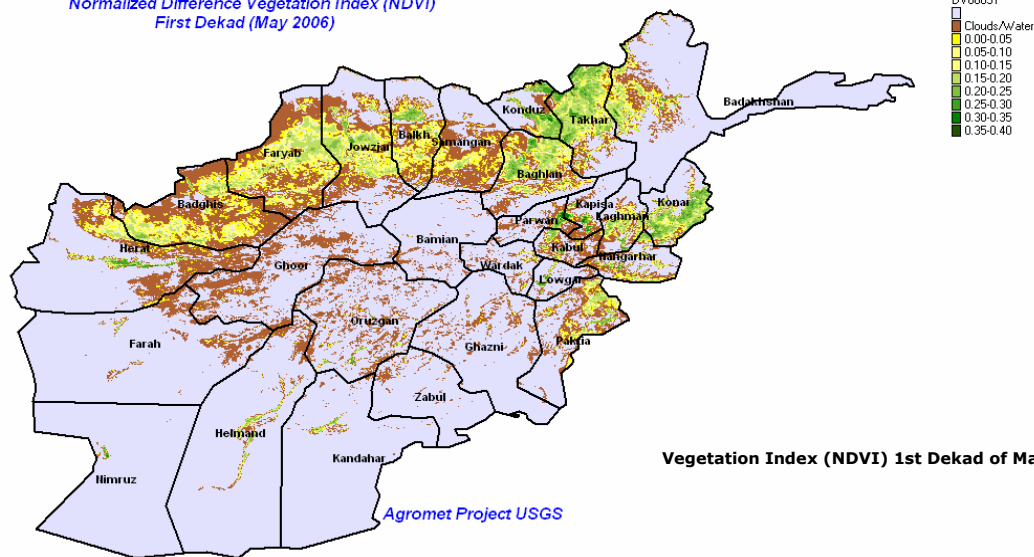
As the temperature value shows, the Eastern, Southern, Southwestern regions and Northern flat areas experienced High temperature during the month of May 2006.

Chart (4) shows maximum and minimum temperatures during the month of May 2006. As the temperature value in Chart (4) shows, the Eastern, Southern, Southwestern Regions and Northern flat areas experienced High temperatures during the month of May 2006.

Lashkargah with 43 ° C experienced the warmest temperature and Jaghatoo with 5 ° C was the coldest point during the month of May 2006.

Normalized Difference Vegetation Index (NDVI) (May 2006)

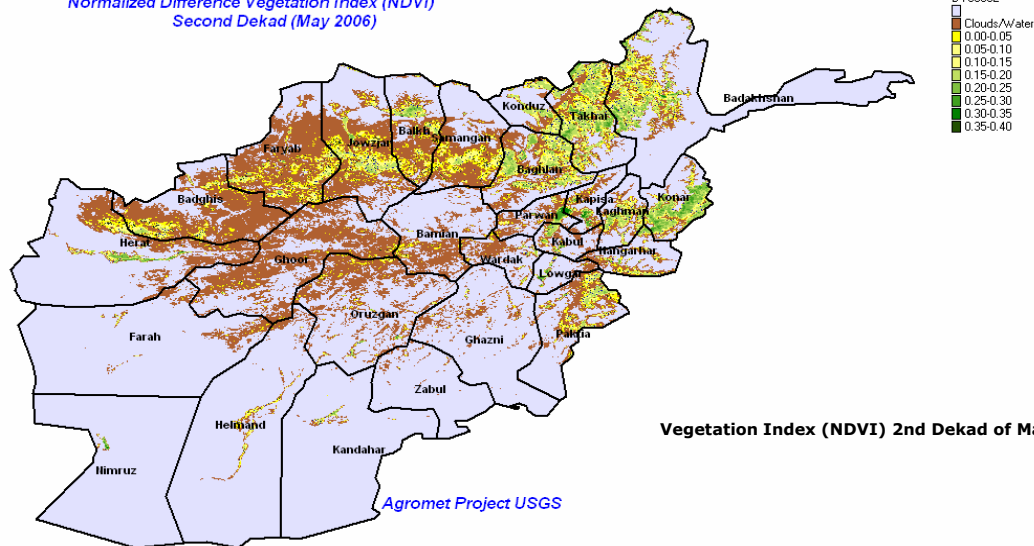
Normalized Difference Vegetation Index (NDVI)
First Dekad (May 2006)



Map 6

Vegetation Index (NDVI) 1st Dekad of May 2006—Afghanistan

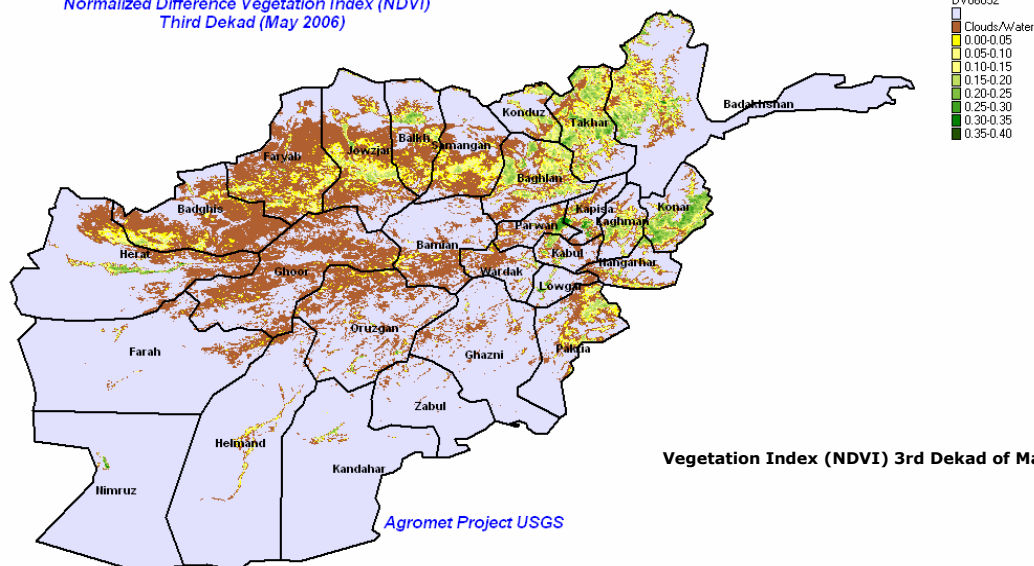
Normalized Difference Vegetation Index (NDVI)
Second Dekad (May 2006)



Map 7

Vegetation Index (NDVI) 2nd Dekad of May 2006—Afghanistan

Normalized Difference Vegetation Index (NDVI)
Third Dekad (May 2006)

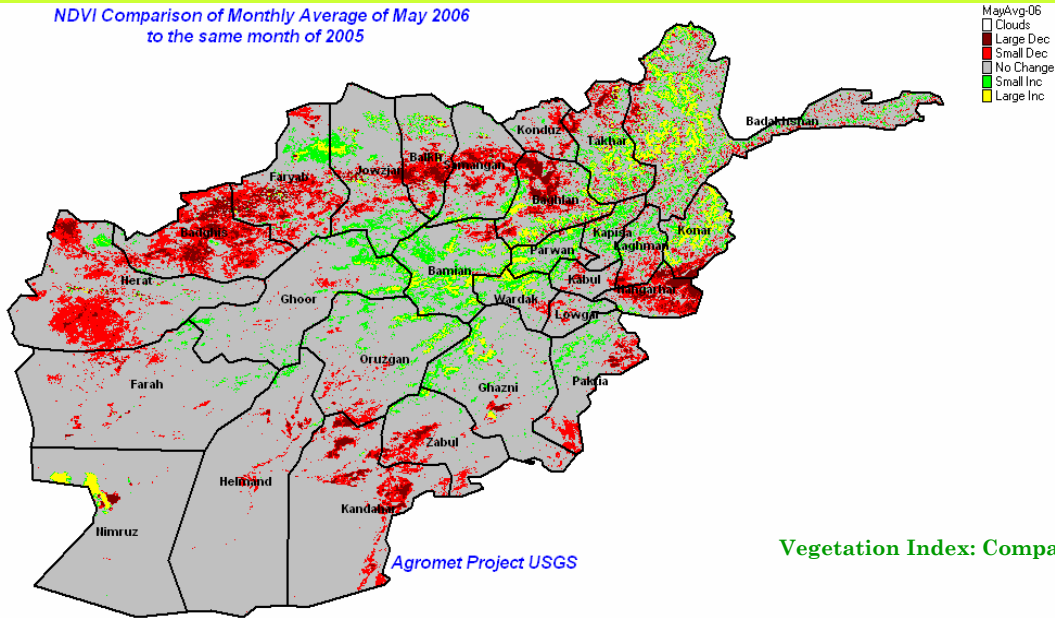


Map 8

Vegetation Index (NDVI) 3rd Dekad of May 2006—Afghanistan

Comparison of NDVI May 2006

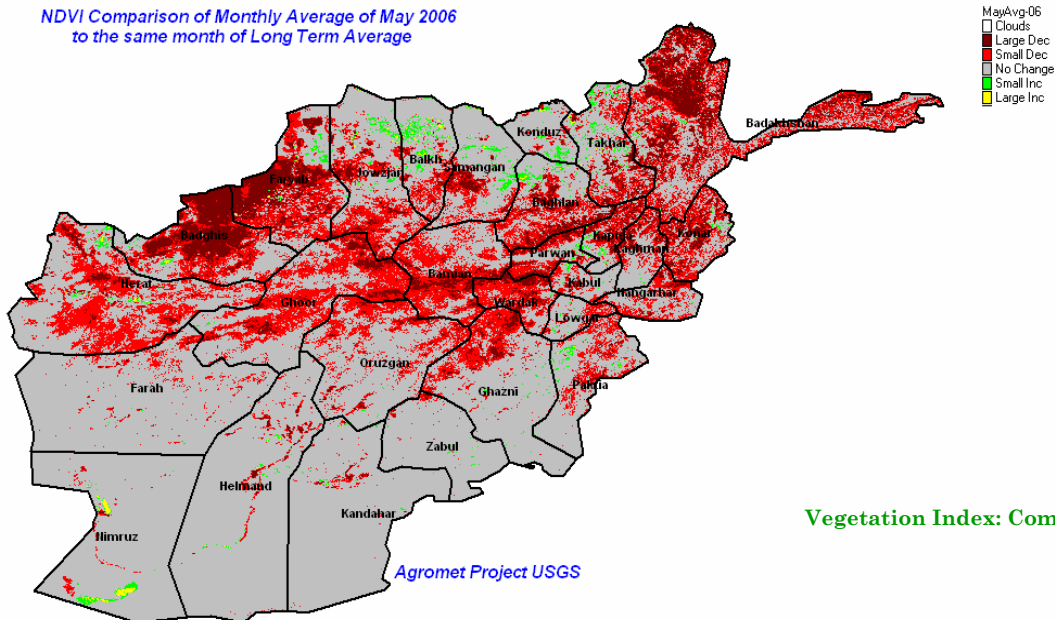
NDVI Comparison of Monthly Average of May 2006
to the same month of 2005



Map 9

Vegetation Index: Comparison to Last Year

NDVI Comparison of Monthly Average of May 2006
to the same month of Long Term Average



Map 10

Vegetation Index: Comparison to Long Term Average

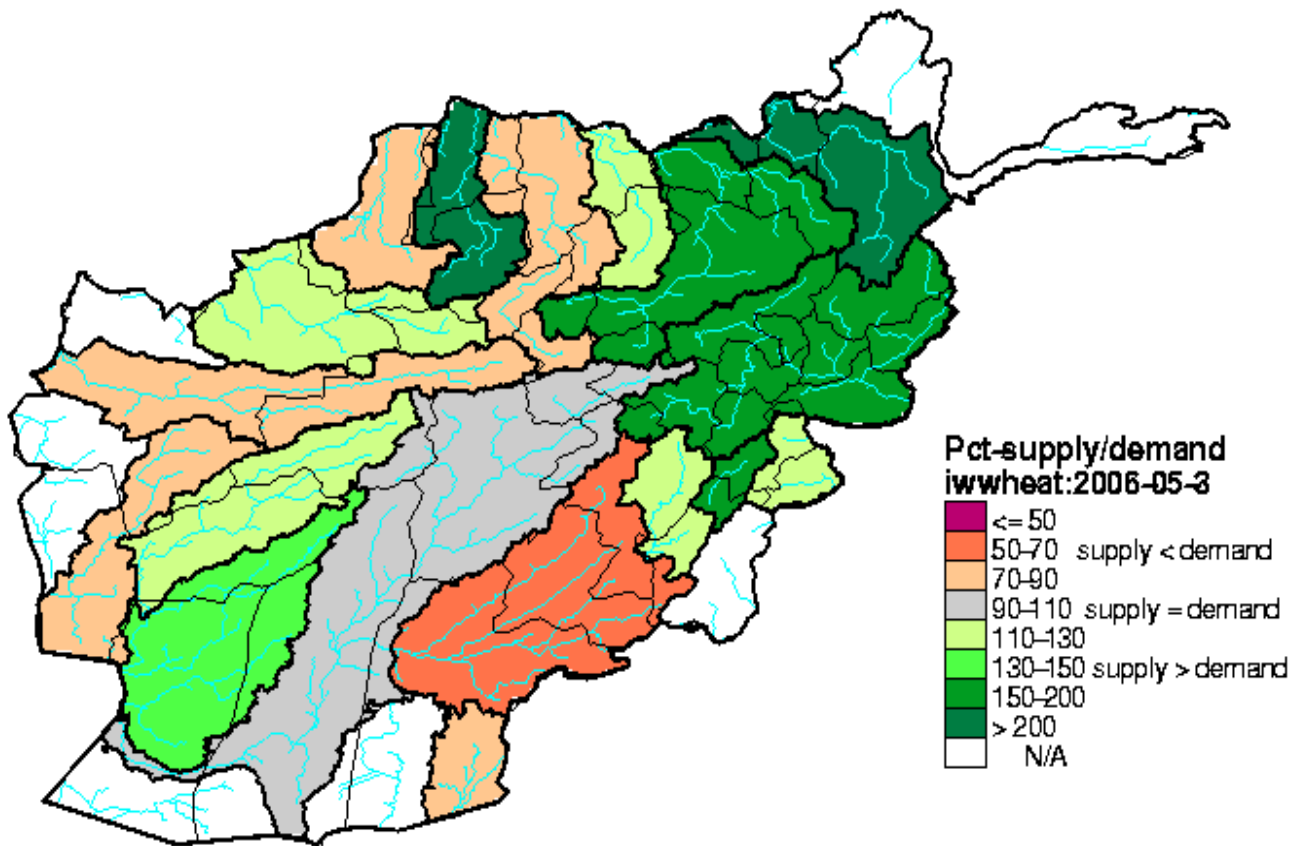
NDVI: May 2006

Comparison of NDVI value for the month of May 2006 to the same month of 2005 is shown in map (9). Comparisons show that a large increase of NDVI occurred in separate areas in the Northeastern, regions, Hindukush areas, East Center and some parts of the Central Highlands.

Small decrease of NDVI occurred in the Northern regions, Northeastern, some parts in the west, East and some parts in the southern regions. There is no change of NDVI in the remaining regions of the country.

The NDVI comparison of the month of May 2006 to the same month of long term average map (10) shows small decrease of NDVI in the Northeastern regions, Hindukush mountainous areas, East, East Center, Central Highlands and same parts of the western regions. Comparison also shows large decrease of NDVI in the Northwestern regions and there in no change of NDVI in the remaining regions in the month of May 2006 over the same month of long term average.

Map 11



Water demand for the winter wheat varied in the different agricultural areas during the month of May 2006. As WRSI map shows that in the Northeastern, Eastern, and Hindukush areas, the Eastern Central Region and, some parts of the South Eastern Regions the water supply is more than the water demand for the winter wheat.

In some parts of the Southeastern, some parts of Northern and western regions the water supply is less than the water demand for the winter wheat.

In the Central Highlands, most of Southeast and some parts of Western regions the water supply is equal water demand for the winter wheat map (11).

Flood: May 2006

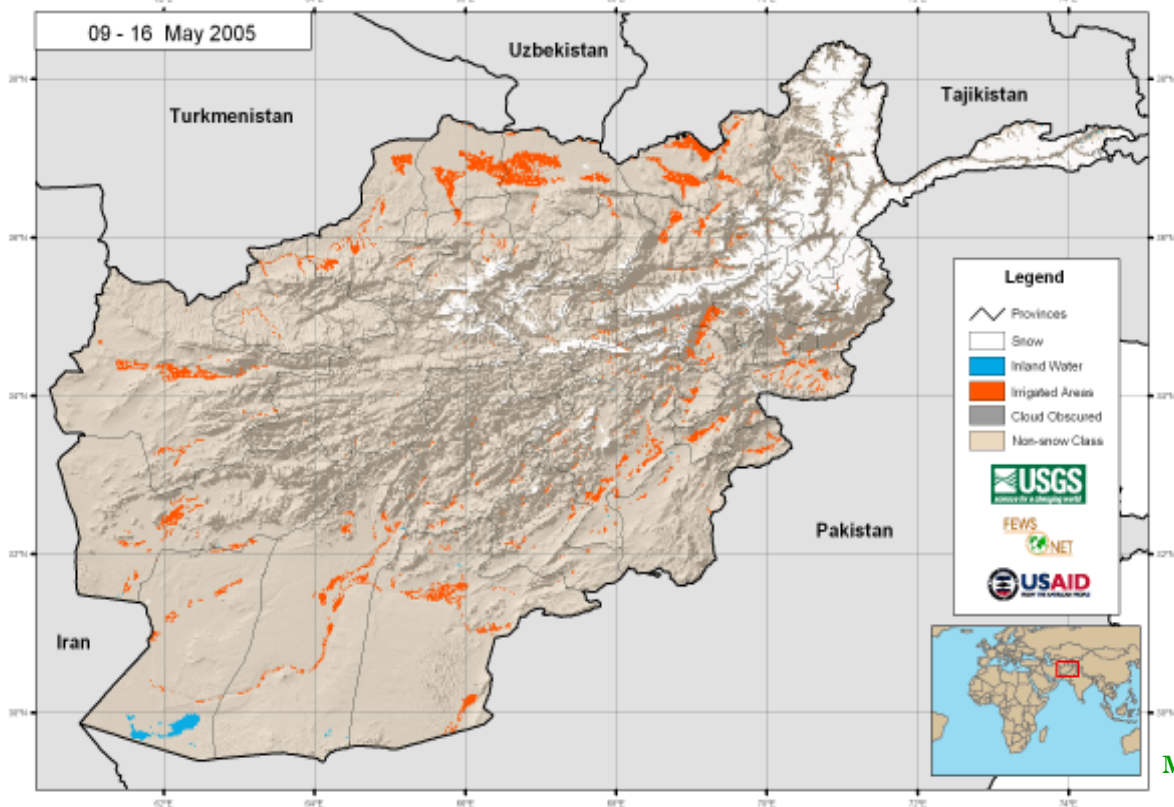
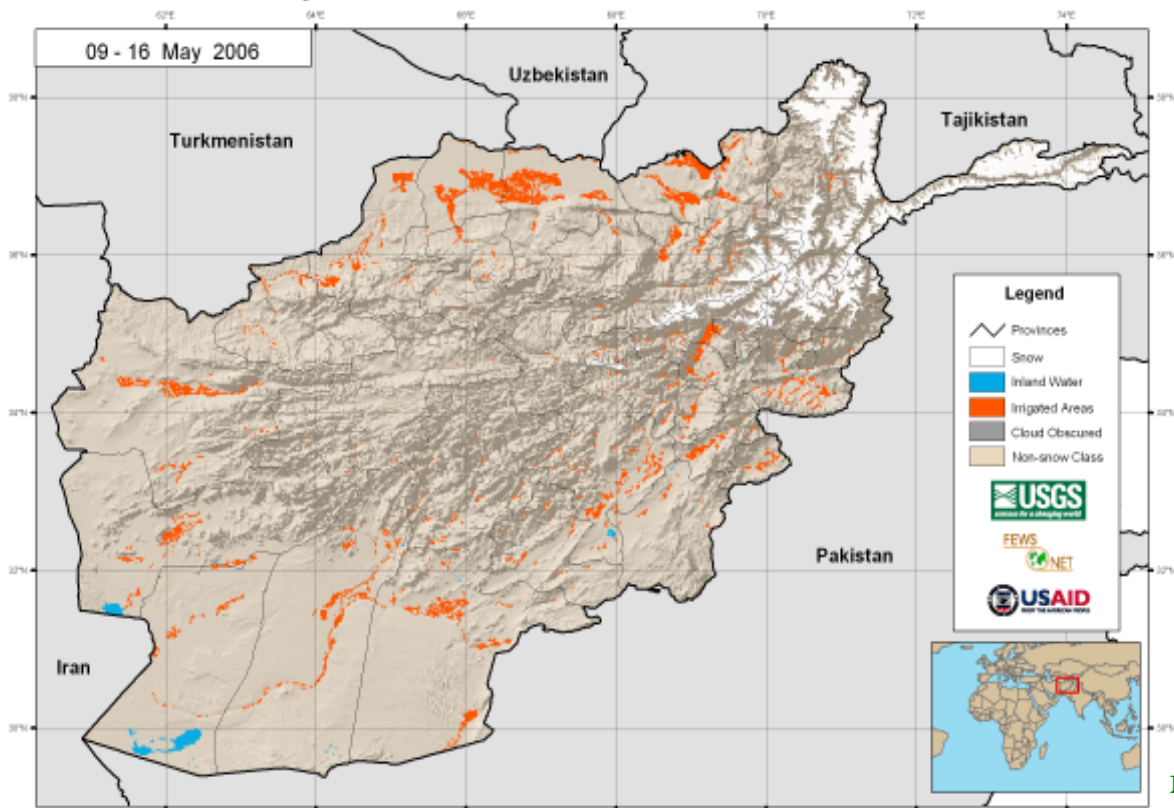
In the month of May 2006 due to increased temperatures the snow on the mountains melted rapidly which was followed by rainfall in some regions so that several provinces experienced heavy floods. The people were harmed and agriculture damaged. The damage is as follow:

NO	Province	Type of Disaster	CASUALTIES			Affected Families	affected Houses		Fruit Trees	livestock	Affected Areas				
			killed	Enjur	miss		Destroy	Damage			Agr.Lands Jireb	Roads in Km	W.Mall	Bridges	other
1	Badakhshan	Flood	1			113	92 shop			70				2	2 hotel
2	Takhar	Flood				93				850	91	8		1	
3	Laghman	Water rising													
4	Baghlan	Flood													
5	Royab	Flood					70				350	2	2		4 reservoirs, 500 canals
6	Ghor	Flood	12			474			1000		1200				10 small dams
7	Kunduz	Flood					12						2	1	
8	Bamyan	Flood					21	42		19	932	3	2		5 reservoirs, 2 small electric dams, 15 Km canal
9	Paktia	Flood						10	5850	121	190	216 Km sub road	6	45 small bridges	21 water canal, 1150 hectare crop yield destroyed, 84 tons wood, 3200 chra-trash.
Total			13			680	195	52	6850	1060	2763	229	12	49	

A dry season has been reported in some provinces resulting in approximately 40 thousands people suffering from the lack of drinking water in Hazrat – e – sultan, Darae suof and Aibak districts of Samangan Province

Comparison of Snow extend and Depth

MODIS 8-day Snow Cover Extent - Current Period 2006 vs 2005

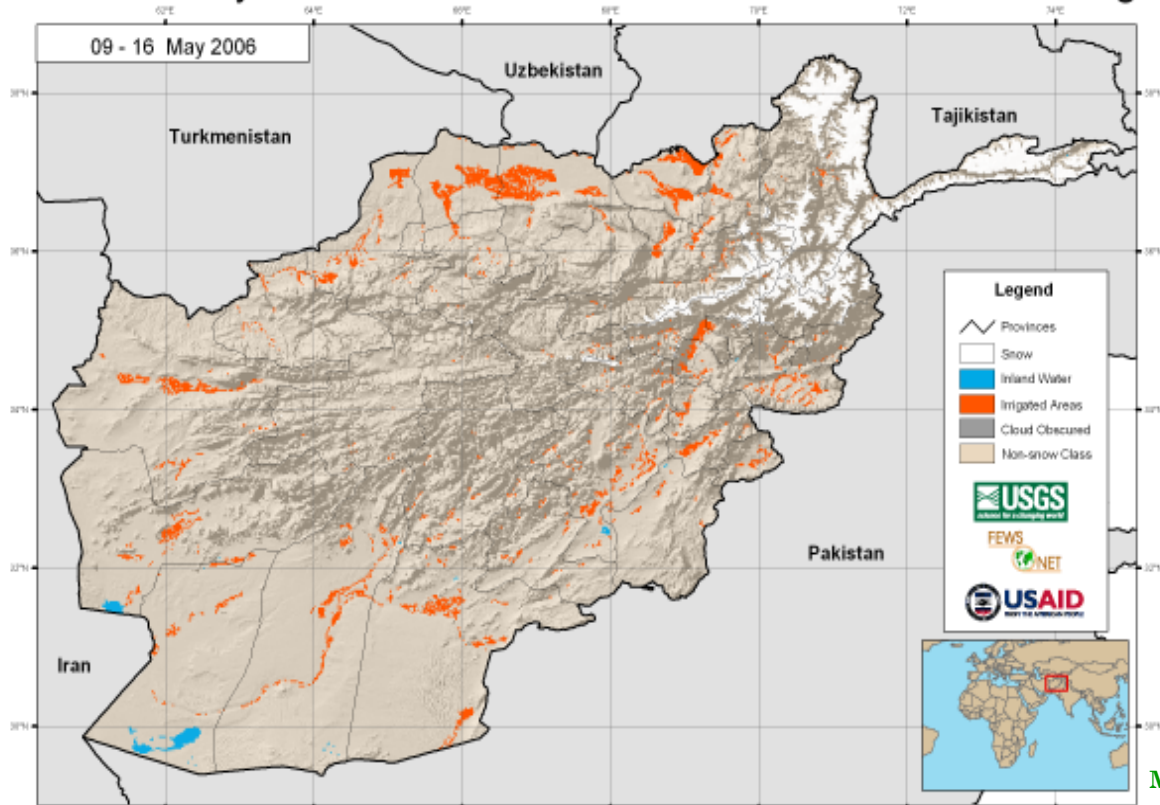


The snow extent during the month of May 2006 was less than the same month in 2005 in the snow covered areas (maps 12 and 13).

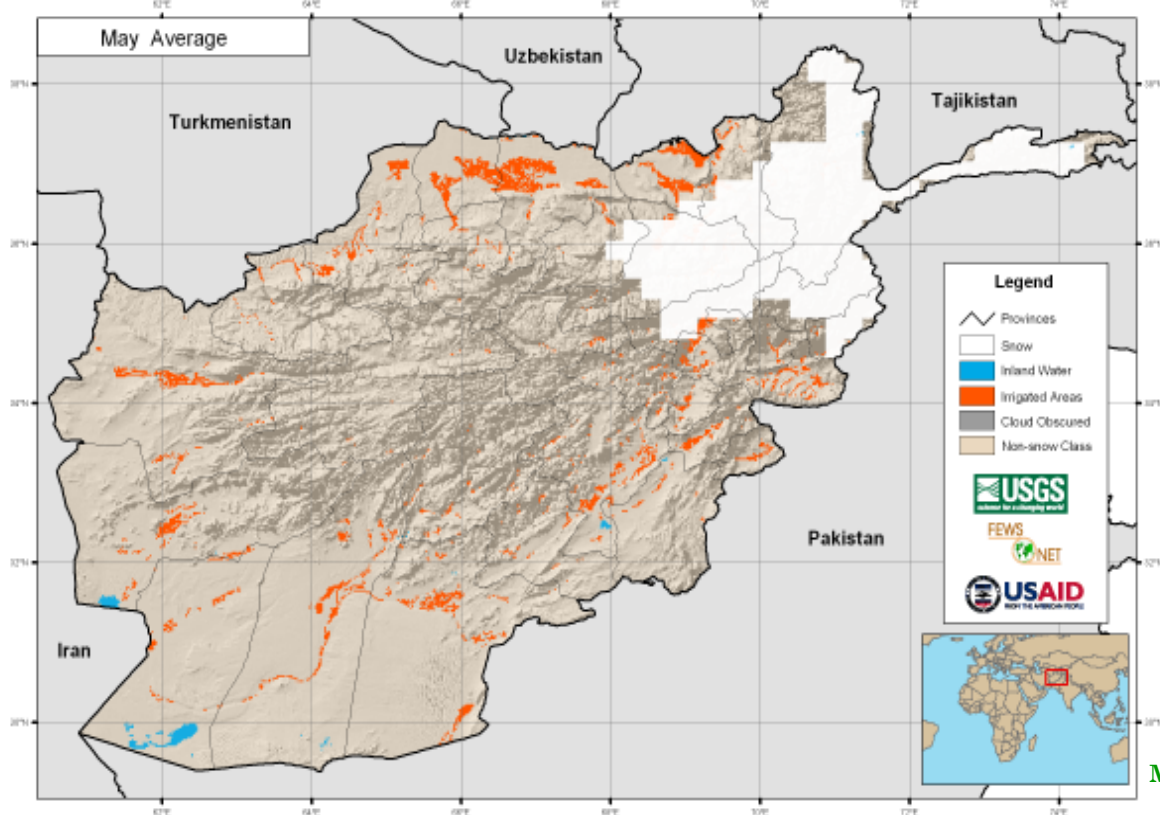
Comparison shows decrease of the extent in the central mountainous areas, Hindukush Mountains and some parts of the Northern regions over the same month in 2005.

Comparison of Snow extend and Depth

MODIS 8-day Snow Cover Extent - Current vs. Historical Average



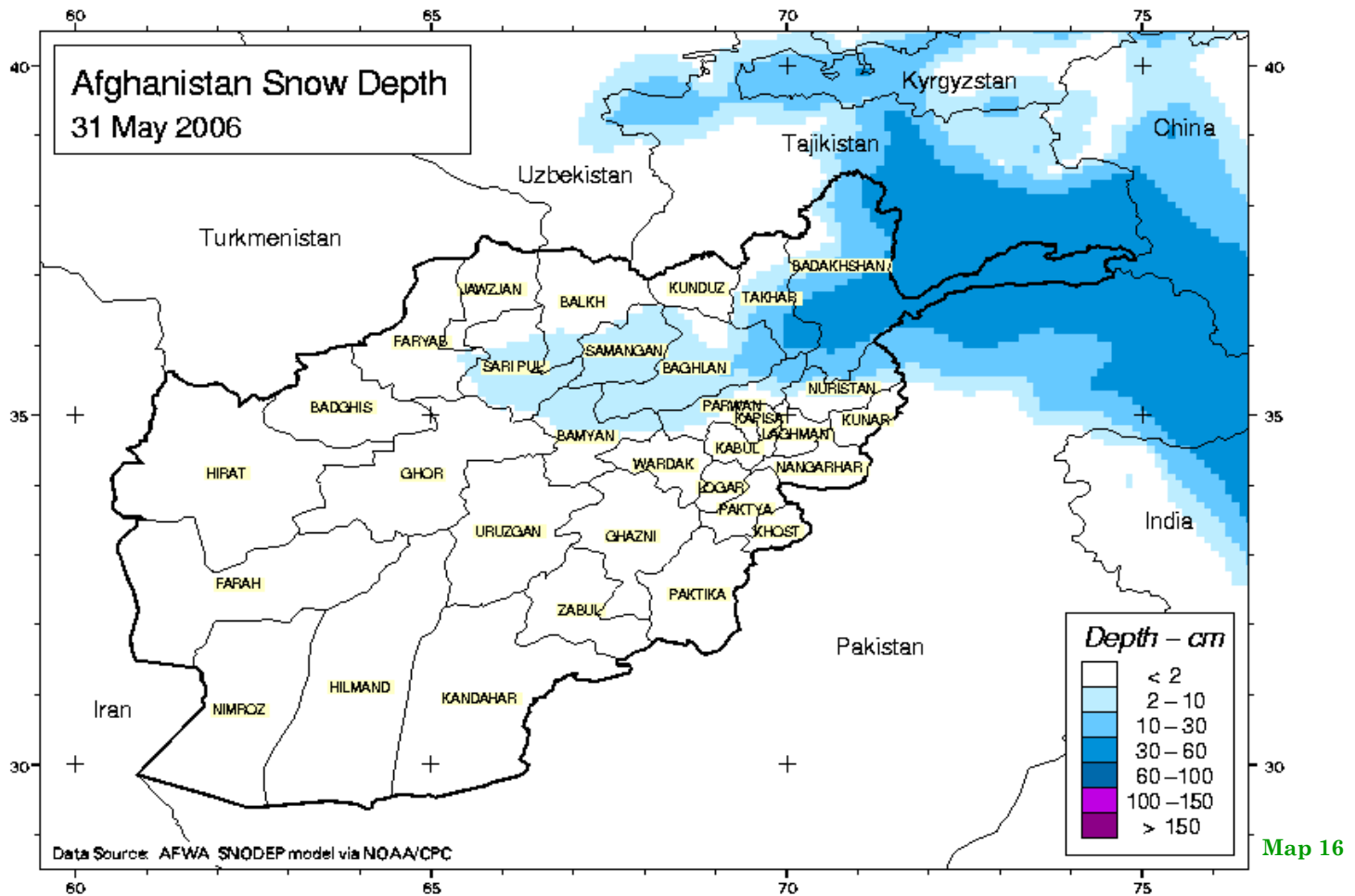
Map 14



Map 15

Comparison of snow extent for the month of May 2006 to the same month of long term average (maps 14 and 15) also shows a decrease of snow extent during the month of May 2006 over the same month of long term average.

Afghanistan Snow Depth May 2006



The increase of temperature caused a reduction in the snow depth during the month of May 2006 in snow covered areas. The snow depth in various regions is shown in map (16) which is showing that the snow depth is from 30 to 60 cm in the Northern regions and from 2 to 10 cm in the Central Highlands.

